includes cases where the peritoneum alone, the liver or spleen only, the spine or the hip-joint alone, showed tuberculous lesions. Also cases in which the lesions in the thorax and abdomen were too far advanced to give any clue as to the method of infection.

In conclusion, if the middle-ear cases are regarded as infected by inhalation, the tonsil case as an alimentary infection, and the remaining pharyngeal cases as doubtful, then inhalation would account for 216 cases, or 63.7 per cent., and ingestion for 65, or 19.1 per cent., the remaining 17 per cent. being of doubtful origin.

OBSTETRICS.

UNDER THE CHARGE OF

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The Treatment of Accidental Hemorrhage.—At the last meeting of the British Medical Association, MACAN (*British Medical Journal*, 1904, No. 2286) read an interesting paper upon this subject which received full discussion.

This condition arises from accident, from disease, and from some failure in the mechanism of labor. As regards the mechanism of accidental hemorrhage, he finds that the healthy uterus cannot be distended to any considerable extent by blood pressure. The placenta has great power of accommodating itself to changes in size of its site, and is not so easily separated as the membranes. Gravity and peristaltic action of the uterus need not be considered. In spreading, the hemorrhage will follow the line of least resistance.

Accidental hemorrhage is caused by increased action of the heart, obstruction to the return of venous blood to the uterus, disease of the uterine vessels, sudden lessening of intrauterine tension and diminution in size of the placental site. When the heart action is slowed, the tendency of the hemorrhage is to stop; increased intrauterine tension from effused blood or intrauterine contraction or adhesions also tends to stop the bleeding. The formation of thrombi produces a like result.

On the other hand, increased heart action, fresh separation of the placenta, diminished coagulability of the blood, a very rapid flow of blood, with adhesions between the placenta and membranes to the uterine walls, tend to increase the bleeding. Diminished intrauterine tension has an important bearing and may arise from the giving way of the uterine walls, the absence of uterine contractions, blood escaping from beneath the placenta or rupture of the membranes.

Where hemorrhage is but slight and from the centre of the placenta it may remain internal. Adhesions between the placenta and membranes or wall of the uterus, distensibility of the uterine wall and the presenting part acting as a plug tend to cause the hemorrhage to remain internal. When these conditions are not present, especially when the bleeding begins near the margin of the placenta, blood will escape externally.

It is very important in these cases to consider the effect of rupturing the membranes and the effect produced by contractions of the uterus on the hemorrhage.

Rupture of the membranes lessens intrauterine tension and tends to increase hemorrhage. Uterine contractions do not cause hemorrhage to stop, for it is not the contraction of the womb but its retraction which controls bleeding. Uterine contractions may cause hemorrhage when the contraction ring is high in the abdomen and the site of the placenta is lessened, when there is delay in the birth of the after-coming head or when a shoulder presentation is neglected. After the birth of the first of twins, or where excessive amniotic liquid escapes, the uterus often contracts but does not retract and hence hemorrhage arises. During a contraction, hemorrhage is arrested if the supply of blood is cut off and intrauterine tension is increased.

As regards diagnosis, we cannot distinguish between a low insertion of the placenta with bleeding and external accidental hemorrhage. In recognizing internal hemorrhage, when symptoms of shock with abdominal pain are present, we must suspect hemorrhage but frequently we cannot diagnose it until after the expulsion of the placenta. When the hemorrhage is concealed, we appreciate its nature from the fact that the symptoms are out of all proportion to the quantity of blood lost. It is of great importance to know if possible how much of the hemorrhage is internal.

In the matter of treatment, we may hope to prevent this accident by curing endometritis, by lessening arterial tension and venous congestion, by dealing with nephritis and by giving remedies which shall increase the coagulability of the blood.

In the treatment of hemorrhage itself, we try to arrest hemorrhage without emptying the uterus if possible. This may be attempted by placing the patient at absolute rest, giving opium and lessening congestion by salines. We may prevent the escape of blood by firmly tamponing the vagina or cervix and by making firm pressure on the uterus, either by the hand or with the vaginal tampon and abdominal binder, aided by a perineal compress and bandage we may increase uterine tension, thus causing the hemorrhage to cease; measures which retard the flow of blood help in the formation of thrombi.

Macan believes in the Rotunda method of tamponing for this condition. This method has been developed by Purefoy, a master of the Rotunda, as follows: For tamponing, sterilized cotton-wool in masses the size of a large walnut, soaked in an antiseptic solution, is used. After preliminary cleansing and the use of the catheter, the fingers of one hand are used as a speculum, the tampons are wrung dry and packed firmly about the cervix. This is done as tightly as possible until no more can be introduced into the vagina. A large strip of iodoform gauze is then placed over the tampons, projecting from the vagina and forming a firm perineal pad. A strong binder is firmly pinned from above downward, starting above the fundus, and to this is added a firm perineal bandage, the whole making very tight compression. The after treatment consisted of warmth, warm liquid food and one-half grain of morphine hypodermically; the physician is notified if uterine contractions begin, if the perineal pad begins to bulge, if hemorrhage comes through the dressings or if the patient grows faint. Of 43 cases so treated, 2 died; one undelivered from hemorrhage, the other from rupture of the uterus. In conducting labor in these cases, the membranes must not be ruptured if possible. If pains become vigorous, the perineal bandage and part of the tampons should be removed. The contractions of the uterus will force out the remainder and the membranes should not be ruptured until full dilatation is secured.

In summing up his paper, Macan states that, from his personal experience, he is entirely in favor of performing Cæsarean section in these cases in preference to rapid dilatation of the cervix. He would be in favor of vaginal Cæsarean section.

He believes that rupture of the membranes is not good treatment of this complication unless it causes rapid expulsion of the child. Where during labor the membranes persist unbroken in the second stage and hemorrhage begins, such bleeding is immediately controlled by rupture of the membranes and the termination of labor.

Galabin has seen accidental hemorrhage completely internal from partial degeneration of the placenta with living fetus. He believed that rupture of the membranes is followed by increased intrauterine tension and hence that it tends to diminish hemorrhage. He did not find on examining the statistics of the Rotunda before treatment by tamponing was introduced a very great improvement in the mortality. He thought Cæsarean section might in some cases increase shock to a fatal issue.

Kerr, of Glasgow, has observed a mortality of 20 per cent. in these patients with an infantile mortality of 95 per cent. Some cases had recovered with no other treatment than rest, the hemorrhage ceasing spontaneously. If the operator decided to rupture the membranes, he thought that a foot should be brought down in addition. In severe cases he believed that Cæsarean section was distinctly indicated.

Byers was also in favor of Cæsarean section in concealed accidental hemorrhage. Where the hemorrhage was external with absence of labor pains, he believed in the Rotunda method of tamponing. He called attention to statistics from the Rotunda of 56 cases where forcible delivery was employed in serious conditions with six deaths. In a second series of 57 cases where forcible delivery was not done but tamponing was used instead, there were but one death. In the last two reports from the Rotunda there were 34 cases without a death.

Nicholson had seen good results from dilating the cervix and emptying the uterus and especially with the use of bipolar version. He had seen good results from giving ergot, digitalis and quinine after delivery of these patients. He had seen after delivery continuous hemorrhage from the lower uterine segment. This was best treated by tamponing with iodoform gauze wrung out of adrenalin solution. The injection of saline solution was also useful in these cases.

Treatment of Birth Paralysis of the Upper Extremity by Suture of the Fifth and Sixth Cervical Nerves.—In the *British Medical Journal*, October 22, 1904, Kennedy contributes further histories of cases of birth paralysis of the upper extremity treated by suture of the fifth and sixth nerves.